

X.—*On the Avifauna of the Lower Pilcomayo.* By J. GRAHAM KERR, Naturalist to the Pilcomayo Expedition. *With Notes by the EDITOR.*

(Plate III.)

I. *Introduction.*

THE Rio Pilcomayo, as is well known, is one of the chief affluents of the Rio Paraguay from the western side. Rising in the Andes of Bolivia, its course to the south-eastward lies through the heart of "El Gran Chaco," an extensive region which has resisted with unusual success most of the numerous attempts at its exploration. As well from its geographical position as from the high-flown fictions which have been written of it by various South-American authors, great hopes were entertained of its turning out a very paradise to the zoologist and botanist. In the beginning of 1889 an opportunity presented itself for the investigation of its biological features: a large expedition was fitting out for the exploration of the Pilcomayo, and the leader of this, Capt. Juan Page of the Argentine Navy, was good enough to intimate to Mr. Selater his willingness to allow a naturalist to accompany him. Hence it was that I became naturalist to this expedition. The readers of 'The Ibis' have been kept well informed of the progress of the expedition from time to time, and it will not therefore be necessary to say more than a few words regarding it here.

Upon January 1st, 1890, the expedition left Buenos Ayres on board the specially-built steamer 'Bolivia.' After a tedious journey up the Paraná, and a further stoppage at Puerto Juarez Celman, opposite the city of Corrientes, the mouth of the Pilcomayo was reached early on March 12th, and the same afternoon the 'Bolivia' entered the river. Eleven days of comparatively uninterrupted navigation along its narrow and extremely tortuous waters brought the expedition to "Las Juntas," the point at which the two branches, of which the Pilcomayo is said to consist for a great part of its course, unite. The 'Bolivia' now entered the northern branch of the river, and immediately its progress became very

slow. After nearly three months of great labour only a few miles' further advance was made, and then, on June 13th, the expedition came to a full stop at the point which was afterwards named "Fortin Page." The 'Bolivia' was now hard and fast aground; the dry season had set in; and the river had fallen greatly. Advance and retreat were alike impossible. Provisions gave out, the military part of the expedition left in a body, and other parties which were sent down the river for supplies never returned. Then the leader and the doctor both succumbed, and the small remainder, some nine men all told, were left with the 'Bolivia.' This small remnant remained at Fortin Page undergoing various hardships and under the constant *espionnage* of the Indians, until they were reached on October 4th by a military relief expedition sent out to search for them. After the arrival of the rescuers, several months longer were spent at and in the neighbourhood of Fortin Page, and it was not until March of this year (1891) that I was forced to leave the 'Bolivia,' and to come away on muleback, bringing with me such portions of my collections as it was possible under the circumstances to convey.

This paper, then, refers more especially to the neighbourhood of Fortin Page, a district which I regard as fairly typical of a very large area of the "Gran Chaco," and on the physical characteristics of which I may be allowed to say a word or two. For many miles around the country is flat and low-lying—an almost dead-level plain, covered with long grass, dotted with Carandai palms, and liable to periodic inundations. The open expanse of this "*palmar*" is broken by occasional isolated patches of dicotyledonous forest, composed of small and scrubby trees, and never of any great extent. These form what is called by the Argentines "*monte duro*." Along the banks of the river there runs a zone of open woodland, or in places brushwood. By far the greater part of the district is occupied by the open *palmar*, and the region is essentially one of llanos or campos, and not of forest. On the lower portions of the Pilcomayo—from about "Las Juntas" the

banks are higher and less exposed to inundation—the palmar disappears and the dicotyledonous forests increase greatly in luxuriance and extent. The borders of the Chaco both on the west and east appear to possess a very much richer fauna and flora than its interior.

The list which follows may, I think, be taken as giving a fairly good idea of the general facies of the avifauna of the *interior* of the Chaco, but by no means of the richly forest-clad regions upon its borders.

In concluding these remarks, I must record my great indebtedness to Mr. Selater for his invaluable advice and assistance.

II. *List of Birds collected upon the Lower Pilcomayo.*

The numbers enclosed in parentheses refer to skins which I have brought home, and of which I have been able to confirm the identification by comparison with marked specimens in the British Museum.

The following are the principal localities mentioned:—

“*Estancia Gil*,” situated upon the left bank of the Pilcomayo, close to its mouth.

“*Las Juntas*,” lat. $24^{\circ} 56'$ S., long. $58^{\circ} 15'$ W. (*Storm*.)

“*Fortin Nueve*,” lat. $24^{\circ} 53'$ S., long. $58^{\circ} 30'$ W. (*Page*.)

“*Fortin Donovan*,” lat. $24^{\circ} 52'$ S., long. $58^{\circ} 40'$ W. (*Page*.)

“*Fortin Page*,” lat. $24^{\circ} 47'$ S., long. $58^{\circ} 45'$ W. (*Page*.)

These positions can only be regarded as approximate.

The nomenclature and arrangement are those of Selater and Hudson's ‘*Argentine Ornithology*,’ to which work a reference is given after the name of every species that is mentioned in it.

1. *Turdus leucomelas*. (*Op. cit.* i. p. 1.)

(No. 116, ♀.) Near Fortin Page. May 26th, 1890.

Observed only once. The specimen was feeding on low open ground near the river in company with *T. rufiventris*.

2. *Turdus rufiventris*. (*Op. cit.* i. p. 3.)

(No. 89, ♂.) Fortin Donovan. May 3rd, 1890.

Abundant on the Pilcomayo, where it frequents the open woods and brush. Its favourite feeding-grounds are the

open spaces near the river and liable to occasional flooding from it. On one occasion I observed this species fishing in a shallow pool, pursuing the small fishes and shrimps by hopping after them from one end of the pool to the other.

3. POLIOPTILA DUMICOLA. (*Op. cit.* i. p. 12.)

(No. 156, ♂; 157, ♀.) Fortin Page. July 7th, 1890.

Very common in all the open woods along the banks of the Pilcomayo, where it is seen actively hopping about the terminal branches of the trees after the manner of a Titmouse, and occasionally uttering a succession of notes:—*whe, whe-whe-whe-pe-wee.*

4. TROGLODYTES FURVUS. (*Op. cit.* i. p. 13.)

Very common.

5. PARULA PITIAYUMI. (*Op. cit.* i. p. 20.)

(No. 41, ♂.) Near Fortin Nueve. April 5th, 1890.

Common in situations similar to and along with *Polioptila dumicola*.

6. GEOTHLYPIS VELATA. (*Op. cit.* i. p. 20.)

(No. 183, ♂; 115, ♀.) Fortin Page. August 30th, 1890.

Occasional: amongst scrub and coarse grass.

7. BASILEUTERUS AURICAPILLUS. (*Op. cit.* i. p. 21.)

Rio Pilcomayo. May 3rd, 1890.

Rare.

8. VIREOSYLVA CHIVI. (*Op. cit.* i. p. 22.)

(No. 4, ♂.)

Obtained at Fortin Nueve, also at Fortin Page.

9. CYCLORHIS OCHROCEPHALA. (*Op. cit.* i. p. 23.)

Fortin Page. May 31st, 1890.

10. PROGNE CHALYBEA. (*Op. cit.* i. p. 25.)

(No. 158, ♂.) Fortin Page. July 27th, 1890.

11. HIRUNDO ERYTHROGASTRA (Bodd.).

(No. 12, ♂; 12*, ♀.) Puerto Juarez Celman. February 22nd, 1890.

Immense numbers of this Swallow were observed at Puerto Juarez Celman on the Rio Paraná, opposite Corrientes.

[This Swallow was not included in our work, but must be now added to the Argentine avifauna.—P. L. S.]

12. *TACHYGINETA LEUCORRHOA*. (*Op. cit.* i. p. 30.)

(No. 186, ♂.) Fortin Page. September 2nd, 1890.

13. *EUPHONIA CHLOROTICA*. (*Op. cit.* i. p. 37.)

(No. 18, ♂.) Puerto Bermejo. February 28th, 1891.

In the forests bordering the Rio Paraguay.

14. *TANAGRA SAYACA*. (*Op. cit.* p. 39.)

(No. 74, ♂; 106, ♀.) Fortin Nueve. April 24th, 1890.

Common during the winter months; generally feeding in company with other Tanagers and Finches among the terminal twigs of the larger trees, and also amongst the bushes. About the beginning of September it began to decrease greatly in numbers, and a little later almost entirely disappeared.

[The specimens brought home appear to belong to *T. cyanoptera* rather than to *T. sayaca*. But after what Mr. Allen says about the series collected by H. H. Smith in Matto Grosso (Bull. Am. Mus. N. H. iii. p. 354), I can hardly maintain the supposed distinctness of these two forms.—P. L. S.]

15. *TANAGRA BONARIENSIS*. (*Op. cit.* i. p. 39.)

(No. 124, ♂.) Fortin Page. June 27th, 1890.

Rather frequent during July and August, feeding and associating with *T. sayaca*.

16. *PYRANGA AZARÆ*. (*Op. cit.* i. p. 40.)

(No. 130, ♂.) Fortin Page. July 11th, 1890.

Rare: a few individuals seen about the middle of July.

17. *TACHYPHONUS MELALEUCUS* (Sparrm.); Sclater, Cat. Birds Brit. Mus. xi. p. 207.

(No. 169, ♀.) Fortin Page. August 10th, 1890.

Fairly common about the date mentioned.

[This is a new addition to the Argentine avifauna, but might well have been expected to occur here. Natterer obtained specimens of it on the Upper Rio Paraná (Pelzeln, Orn. Bras. p. 212).—P. L. S.]

18. ARREMON POLIONOTUS, Bp.: *Scl. Cat. Birds*, xi. p. 278. (No. 71, ♂.) Near Fortin Donovan. April 24th, 1890. Frequent in the patches of thick forest on the Pilcomayo.

[This is a South-Brazilian species which might well be expected to occur here. Natterer obtained it in Cuyaba. It must be now added to the Argentine list.—P. L. S.]

19. SALTATOR SIMILIS. (*Op. cit.* i. p. 41.)

Rio Pilcomayo. April 18th, 1890.

Common amongst the brush, but less numerous than *S. cærulescens*.

20. SALTATOR CÆRULESCENS. (*Op. cit.* i. p. 42.)

(No. 105, ♂.) Near Fortin Page. May 21st, 1890.

Very abundant amongst the bushes.

21. SALTATOR AURANTHIROSTRIS. (*Op. cit.* i. p. 42.)

(No. 120, ♂; 114, ♀.) Near Fortin Page. May 26th, 1890.

Frequent in similar localities and along with *S. similis* and *S. cærulescens*, but not abundant. Utters a series of chirping notes of small range.

22. GUIRACA CYANEA. (*Op. cit.* i. p. 43.)

(No. 146, ♂.) Fortin Page. July 22nd, 1890.

Along with other Finches in the brush by the river margin. Not common.

23. SPERMOPHILA MELANOCEPHALA. (*Op. cit.* i. p. 45.)

(Nos. 1, 167, 168, ♂.) Fortin Page. August 9th, 1890.

Abundant: in small flocks wherever there is tall coarse grass, amongst which they feed.

24. SPERMOPHILA CÆRULESCENS. (*Op. cit.* i. p. 46.)

Fortin Page. July 22nd, 1890.

Frequent in flocks amongst brush and tall grass along with *S. melanocephala*.

25. PAROARIA CUCULLATA. (*Op. cit.* i. p. 47.)

(No. 64, ♀.) Near Fortin Donovan. April 20th, 1890.

Very abundant in trees and bushes by river-banks. Generally in company with *P. capitata*. On one occasion I counted thirty *P. cucullata* in one small tree.

26. *PAROARIA CAPITATA*. (*Op. cit.* i. p. 48.)

(No. 111, ♂.) Fortin Donovan. May 3rd, 1890.

Equally or even rather more abundant than *P. cucullata*. Especially conspicuous among the bushes upon the river's banks.

27. *CORYPHOSPINGUS CRISTATUS*. (*Op. cit.* i. p. 48.)

Fortin Nueve; Fortin Page.

Not common.

28. *POOSPIZA MELANOLEUCA*. (*Op. cit.* i. p. 52.)

(No. 63, ♂.) Near Fortin Donovan. April 19th, 1890.

Very abundant amongst the terminal twigs of the trees by the river, in company with *Poliophtila dumicola* and *Parula pitiayumi*.

29. *ZONOTRICHIA PILEATA*. (*Op. cit.* i. p. 58.)

Very abundant everywhere.

30. *EMBERNAGRA PLATENSIS*. (*Op. cit.* i. p. 62.)

(No. 5, ♀.) Frequently met with in the open palmar with scattered bushes.

31. *CHRYSOMITRIS ICTERICA*. (*Op. cit.* i. p. 64.)

Occasional flocks appeared during the winter, but not common.

32. *AMBLYCERCUS SOLITARIUS*. (*Op. cit.* i. p. 72.)

(No. 55, ♂; 122, ♀.) Fortin Nueve. April 13th, 1890.

A very common and characteristic inhabitant of the Chaco, frequenting especially the brush and belt of open wood which usually borders the rivers. Its nest, of the usual elongated flask-shape, and built of coarse brown fibres, depends from the tip of a branch, frequently overhanging the water. Its "song" is very sweet, though extremely short, consisting only of three notes—*whēe-hon-ah!*—clear and metallic, and remarkably rich in tone. It also frequently utters a peculiar *miauw*-like sound, either alone or followed by a couple of abrupt, deep, and peculiarly liquid notes—*miauw-cū-cū*.

33. *CASSICUS ALBIROSTRIS* (Vieill.); *Scl. Cat. Birds*, xi. p. 323.

Exceedingly common and characteristic. Frequently seen

in large numbers in the tops of the Carandai palms. It feeds chiefly in the open; but its real home is in the recesses of the thick and dense "monte duro," where its deep rich notes strike upon the ear; and its elongated flask-shaped nest may be seen suspended from the trees. The nest is much smaller and more delicate than that of *Amblycercus solitarius*; and the root-fibres of which it is composed are much less coarse, and are black in colour, resembling horsehair.

[This Cassique was originally discovered by Azara in Paraguay, and also occurs in the South-Brazilian province of Rio Grande. It must now be added to the Argentine avifauna.—P. L. S.]

34. *MOLOTHRUS BONARIENSIS*. (*Op. cit.* i. p. 72.)
(Nos. 103 & 104, ♀.) Fortin Donovan. May 18th, 1890.
Occasional flocks during winter.

35. *MOLOTHRUS RUFOAXILLARIS*. (*Op. cit.* i. p. 86.)
(Nos. 136 & 137, ♀.) Fortin Page. July 12th, 1890.
Very common.

36. *MOLOTHRUS BADIUS*. (*Op. cit.* i. p. 95.)
(No. 2, ♀.) Opposite Goya.
Very abundant all along the banks of the Pilcomayo.

37. *AGELEUS RUFICAPILLUS*. (*Op. cit.* i. p. 99.)
(Nos. 99 & 101, ♂.) Near Fortin Donovan. May 13th, 1890.

Occasionally met with in flocks feeding amongst the tall grass, &c., by the edges of marshes.

38. *AGELEUS CYANOPUS* (Vieill.): *Sci. Cat. Birds*, xi. p. 344.
(No. 176, ♂; 160, ♀.) Fortin Page. August 1890.

Seen occasionally in pairs during August and September, feeding amongst bushes near freshwater marshes.

[Mr. Kerr brought home examples of both sexes of this curious species, of which the male is of a uniform black. It was originally discovered by Azara in Paraguay, and Natterer got specimens on the Upper Paraná. It must now be added to the Argentine avifauna.—P. L. S.]

39. *AMBLYRHAMPHUS HOLOSERICEUS*. (*Op. cit.* i. p. 101.)
Occasional amongst the tall bulrushes of the marshes.

40. *ICTERUS PYRRHOPTERUS*. (*Op. cit.* i. p. 107.)
Very common.

41. *APHOBUS CHOPÍ*. (*Op. cit.* i. p. 108.)
(No. 134, ♀.) Fortin Page. July 13th, 1890.
Many seen during July in the open palmar.

42. *CYANOCORAX CHRYSOPS*. (*Op. cit.* i. p. 110.)
(No. 8, ♂.) Puerto Juarez Celman. Feb. 15th, 1890.
Abundant in the hardwood forests, in company with *C. ceruleus*.

43. *CYANOCORAX CÆRULEUS*. (*Op. cit.* i. p. 110.)
(No. 191, ♀.) Fortin Page. September 10th, 1890.
Very common in the hardwood forests, and occasionally straying out into the open. It has been described as being extremely shy, but I found this to be the case only with the scattered individuals one sees outside the limits of the forest. Within the forest, where it is usually found in company with *C. chrysops*, it even exceeds its companion in boldness and curiosity. It is always the first to catch sight of a stranger within the forest, hopping about in the branches all round him, peering at him curiously, and all the while raising an alarm with harsh cries—*caa-caa-caa*. The natural boldness of the bird was well shown by the behaviour of one shot in the wing by Col. Racedo and given to me. The wing was shattered at the carpal joint, so I snipped off the entire manus and dusted iodoform over the wound to stop the bleeding. The bird remained for several hours very weak from shock and loss of blood, but next morning was again quite lively. It hopped about with the utmost confidence, ate and drank out of my hand, and finally had the presumption to jump up on my knee and begin to tear pieces of flesh out of a bird which I was dissecting at the time.

When out in the open, on the other hand, this species is exceedingly wary and difficult of approach.

The flight of *C. ceruleus* is very weak and undulating, and

its voice is restricted to a harsh scream, not possessing the variety of that of *C. chrysops*.

44. *TENIOPTERA NENGETA*. (*Op. cit.* i. p. 114.)

(No. 66, ♂.) Near Fortin Donovan. April 21st, 1890.

Frequent. Generally to be seen perched on the summits of dead palm-stems, in the low open grounds bordering lagunas, whence it makes sallies after insects. This is one of the species which always collect in large numbers round the great camp-fires, to capture the insects frightened up out of the grass.

45. *TENIOPTERA DOMINICANA*. (*Op. cit.* i. p. 117.)

Fortin Page. August 2nd, 1890.

46. *TENIOPTERA IRUPERO*. (*Op. cit.* i. p. 118.)

Very frequent in the open places, where it is very conspicuous, as it sits motionless on the summit of a bush, tempting one to believe that the brilliant white colour has been developed for the purpose of attracting its insect-prey.

Like *T. nengeta*, this species always collects in numbers round the camp-fires.

47. *FLUVICOLA ALBIVENTRIS*. (*Op. cit.* i. p. 121.)

(No. 90.) Occasionally seen hopping about among the drift wood at the water's margin, but not common.

48. *ARUNDINICOLA LEUCOCEPHALA*. (*Op. cit.* i. p. 122.)

Rare; found in reed-beds.

49. *SISOPYGIS ICTEROPHRYS*. (*Op. cit.* i. p. 125.)

(No. 145, ♂.) Fortin Page. July 21st, 1890.

50. *CNIOLEGUS CINEREUS*. (*Op. cit.* i. p. 128.)

(No. 389, ♀.) A single female of this species was obtained on the Pilcomayo.

51. *LICHENOPS PERSPICILLATUS*. (*Op. cit.* i. p. 129.)

(No. 180, ♀.) Fortin Page. August 18th, 1890.

Frequent, but by no means so abundant as it is in the Pampas.

52. *MACHETORNIS RIXOSA*. (*Op. cit.* i. p. 131.)

(No. 44, ♂ juv.)

The commonest of the Tyrannidæ on the Pilcomayo. Very abundant by the water's margin, where they are seen feeding in pairs, each pair having possession of a definite extent of the river's margin for themselves, and violently resenting any intrusion upon it by other birds of their own species.

53. *EUSCARTHUS MARGARITACEIVENTRIS*. (*Op. cit.* i. p. 136.)

(No. 38, ♂.) Near Fortin Nueve. April 4th, 1890.

Frequent amongst brush by the river.

54. *PITANGUS BOLIVIANUS*. (*Op. cit.* i. p. 147.)

(No. 93, ♀.) Near Fortin Donovan. May 3rd, 1890.

Very common. Often seen sitting on the topmost twigs of the trees. Occasionally observed fishing like a Kingfisher.

55. *PYROCEPHALUS RUBINEUS*. (*Op. cit.* i. p. 152.)

At times very common.

56. *MYIARCHUS TYRANNULUS*. (*Op. cit.* i. p. 156.)

(Nos. 60, 81, ♂.) Near Fortin Nueve. April 14th, 1890.

Very common in forest and among trees on river banks. Hops about with its crown-feathers elevated as a crest.

57. *MYIARCHUS FEROX*. (*Op. cit.* i. p. 156.)Frequent, but much less abundant than *M. tyrannulus*.58. *MILVULUS TYRANNUS*. (*Op. cit.* i. p. 160.)

(No. 196, ♂.) Fortin Page. September 16th, 1890.

Very common in spring and summer.

59. *PACHYRHAMPHUS VIRIDIS* (Vicill.): Selater, Cat. B. xiv. p. 338.

(No. 138, ♂.) Fortin Page. July 12th, 1890.

[The single specimen brought home is undoubtedly of this species. It is a well-known South-Brazilian bird, and must now be added to the Argentine avifauna.—P. L. S.]

60. *PACHYRHAMPHUS POLYCHROPTERUS*. (*Op. cit.* i. p. 162.)
(No. 214, ♂.) Near Fortin Page. December 22nd, 1890.

61. *CASIORNIS RUBRA*. (*Op. cit.* i. p. 163.)
(No. 73, ♂.) Near Fortin Donovan. April 24th, 1890.

62. *PHYTOTOMA RUTILA*. (*Op. cit.* i. p. 164.)
(No. 140, ♂.) Fortin Page. July 1890.

63. *FURNARIUS RUFUS*. (*Op. cit.* i. p. 167.)
(No. 112, ♂.) Fortin Donovan. May 3rd, 1890.
Very common.

64. *SYNALLAXIS FRONTALIS*. (*Op. cit.* i. p. 178.)
(No. 91, ♀.) Near Fortin Donovan. May 3rd, 1890.

65. *SYNALLAXIS CINNAMOMEA* (Gm.): Selater, Cat. B. xv.
p. 50.

(No. 174, ♂.) Fortin Page. August 12th, 1890.
Occasionally met with amongst the bulrushes by the borders of the marshes.

[A South-Brazilian species that might well be expected to occur here. Mr. H. H. Smith obtained examples in Matto Grosso, and Mr. Joyner in Rio Grande do Sul. It is, however, new to the Argentine list.—P. L. S.]

66. *SYNALLAXIS MAXIMILIANI* (d'Orb.): Selater, Cat. B. xv. p. 56.

(No. 207, ♀ ?) Fortin Page. November 25th, 1890.

Not common, and liable to be overlooked owing to its shy and inconspicuous habits. Frequents the margin of the "monte duro," never leaving it altogether, and hopping about amongst the low bushes. Extremely shy, always endeavouring to keep hidden behind a branch or other object.

[The specimen belongs, as might have been anticipated, to *S. maximiliani*, and not to its northern ally *S. torquata*. Azara discovered the species in Paraguay. It is very scarce in collections, and there is only one imperfect example of it in the British Museum.—P. L. S.]

67. *SYNALLAXIS PHRYGANOPHILA*. (*Op. cit.* i. p. 181.)

(No. 179, ♂ ; 13, ♀.) Fortin Page. August 18th, 1890.

One of the commonest Spine-tails in the Chaco, abundant wherever there is open ground. Has a pleasing gurgly song.

68. *SIPTORNIS STRIATICEPS*. (*Op. cit.* i. p. 182.)

(No. 80, ♂.) Near Fortin Donovan. April 28th, 1890.

69. *PHACELLODOMUS STRIATICOLLIS*. (*Op. cit.* i. p. 194.)

(No. 109, ♂ ; 110 ♀.) Fortin Donovan. May 3rd, 1890.

Exceedingly common, frequenting the zone of brushwood which borders the river. It is always seen in pairs, and their song is, like that of many of their congeners, a duet between male and female. One bird utters a sharp call-note, the other answers, and then begins a succession of clear hard notes—at first distinct, then becoming shorter and more rapidly repeated, until at last they become fused together in a tumultuous rush of notes. The two birds sing in concert, one being throughout a few notes ahead of the other.

The nest is a large twig-built structure, dependent from the end of a branch, which it weighs down until, in some cases, it nearly touches the ground.

70. *SITTOSOMUS OLIVACEUS* (Max.): Selater, Cat. B. xv. p. 119.

(No. 77, ♂.)

Common. In habits resembles *Picolaptes angustirostris*. Song of subdued whistle-like notes, in tone resembling the call-note of the Charata.

[This widely distributed bird, already met with at Chapada, in Matto Grosso, by H. H. Smith (*l. s. c.*), must now be added to the Argentine list. It is curious that White's specimen from Oran (now in the British Museum) belongs certainly to the allied species *S. erithacus*. (*Cf.* Arg. Orn. i. p. 198.—P. L. S.)

71. *PICOLAPTES ANGUSTIROSTRIS*. (*Op. cit.* i. p. 201.)

(No. 177, ♂.) Fortin Page. August 17th, 1890.

Extremely abundant—one to be seen on almost every tree-trunk, round which they work up spirally in a succession of hops. Alighting on a tree, as it sets to work it utters a short gurgly scrap of song. Like most of the *Passeres* here, it is very tame, showing absolutely no fear of man. On one occasion a bird of this species went down one of our hatchways which had been left open, and was discovered pecking away at a skin of lard which was hanging in the hold. In this bird the optic axes of the eyes are much less divergent than in most others, producing a very curious appearance when it looks full at one with both eyes.

72. *XIPHOCOLAPTES MAJOR*. (*Op. cit.* i. p. 201.)

(No. 356, ♂ ; 10, ♀.) Fortin Page. August 1890.

Abundant, especially in the open woodlands. It ascends the tree-trunks vertically in a succession of hops. Clinging to the bark, its head thrown back and its mouth wide open, it utters a low continuous squeaky sound, interspersed with very characteristic, clear, abrupt notes, which are uttered in pairs and regularly descend in pitch. Like *Picolaptes angustirostris*, this species is very tame and allows one to approach very close, though as a rule it endeavours to keep on the far-away side of the trunk. One often sees one of them descending a vertical stem in a succession of drops, dropping a foot or so at a time, and instantly checking itself without apparent effort. On several occasions I have observed *X. major* feeding on soft ground, using its long bill as a spade, and moving about by hops.

73. *XIPHORHYNCHUS LAFRESNAYANUS* (d'Orb.) : Selater, Cat. B. xv. p. 160.

(Nos. 79, 161, ♂.) Near Fortin Donovan. April 26th, 1890.

Frequent. In general habits it resembles a *Picolaptes*, except that the bill serves only as probe and forceps. In the Pilcomayo specimens the bill is even more than its usual length. I have seen this bird, when it held an insect in the tip of its bill, slide the latter down against the edge of a branch, and so push the insect down to within reach of

the very short tongue, and thus enable the operation of swallowing to be performed.

[New to the Argentine list, but quite likely to occur in this district.—P. L. S.]

74. *THAMNOPHILUS MAJOR*. (*Op. cit.* i. p. 203.)

(No. 170, ♂.) Fortin Page. August 10th, 1890.

Very common amongst the bushes, and the male very conspicuous from his sharply contrasted colours. They live entirely upon the ground or amongst the lower branches of bushes. The male and female sing in concert, sitting upon low branches near one another. They utter a succession of sharp chick-like notes, at first quite distinct, but gradually becoming more rapid and passing into a confused trill, which finally winds up in a curious *miauw*-like sound. The bird also frequently utters this peculiar cat-like cry only.

75. *THAMNOPHILUS AMBIGUUS* (Sw.) : Selater, Cat. B. xv. p. 201.

(No. 37, ♂.) Near Fortin Nueve. April 4th, 1890.

Only a single specimen of this Bush-bird was obtained. In consequence of its imperfect state, the tail-feathers being absent, its identity is not absolutely certain. Mr. Selater, however, thinks it most probably belongs to *T. ambiguus*, which has been met with previously in the not very distant province of Matto Grosso, by Mr. H. H. Smith.

76. *THAMNOPHILUS RADIATUS* (Vieill.) : Selater, Cat. B. xv. p. 210.

(No. 87, ♂ jr. ; 151, ♂ ; 152, ♀.) Fortin Page. July 26th, 1890.

Common amongst bushes, resembling in habits *T. major*. Hops about with its crest usually elevated. Its song consists of a low clear note, several times repeated and ending in a slight trill.

[It was quite to be expected that this species, the *Batará listado* of Azara, would occur on the Pilcomayo.—P. L. S.]

77. *HYDROPSALIS FURCIFERA* (Vieill.) : Selater, P. Z. S. 1866, p. 142.

Very common. Many were seen skimming over the water's surface of the Pilcomayo during the night.

[Azara's *Ibiyáú cola de tixera* (no. 309) became the *Caprimulgus fuscifer* of Vieillot. Therefore the *Hydropsalis* of the Pilcomayo should probably bear this name. But I am not sure that it is different from *H. torquata* of Brazil.—P. L. S.]

78. *HYLOCHARIS SAPPHIRINA*. (*Op. cit.* ii. p. 8.)

Although frequently seen, Humming-birds occurred singly and in small numbers, and were very shy. The only specimens which I shot (three) belonged to the above-named species. I am certain that at least two other species occur, but I did not manage to obtain specimens, and so could not identify them with any certainty. *H. sapphirina* was obtained at Puerto Bermájo, and at Fortin Page on the Pilcomayo. In the latter case it was met with on acacia-blossoms.

79. *COLAPTES AGRICOLA*. (*Op. cit.* ii. p. 24.)

(No. 108, ♂; 139, ♀.) Fortin Donovan. May 3rd, 1890.
Abundant in the palmar, going in small flocks, and feeding chiefly on ants.

80. *CHLORONERPE CHRYSOCHLORUS* (Vieill.): Hargitt, Cat. Birds, xviii. p. 72.

(No. 72, ♂; 75, ♀.) Near Fortin Donovan. April 24th, 1890.

Occasionally met with.

[One of Azara's discoveries in Paraguay (his *Carpintero verde dorado*), and consequently quite to be expected on the Pilcomayo.—P. L. S.]

81. *CHRYSOPTILUS CRISTATUS*. (*Op. cit.* ii. p. 21.)

(Nos. 58, 59, & 61, ♂; 40, ♀.) Near Fortin Nueve. April 13th, 1890.

Very common, coming next after *Colaptes agricola* and *Campephilus leucopogon* in point of abundance. Frequents chiefly the open woodlands. Occasionally feeds on the ground, but more often on trees. It often perches crosswise on a branch. The nest is in a hollow palm-stem.

82. *LEUCONERPE CANDIDUS*. (*Op. cit.* ii. p. 23.)

(No. 117, ♀.) Near Fortin Page. May 27th, 1890.

Very uncommon. The stomachs of two individuals examined contained only honey.

83. *PICUS CACTORUM*. (*Op. cit.* ii. p. 19.)

(No. 113, ♂; 187, ♀.) Near Fortin Page. May 24th, 1890.

Frequent: observed on many kinds of trees, but never on cacti.

84. *PICUS MIXTUS*. (*Op. cit.* ii. p. 19.)

(No. 159, ♂; 96, ♀.) Fortin Page. July 30th, 1890.

Frequent.

85. *DENDROBATES OLIVINUS* (Malh.): Hargitt, Cat. Birds, xviii. p. 356.

(No. 53, ♂; 92, ♀.) Near Fortin Nueve. April 13th, 1890.

Occasionally met with.

[This species was omitted in 'Argentine Ornithology,' but a specimen believed to be from Corrientes, now in the British Museum, was long in my collection, and examples of it were obtained by Natterer and H. H. Smith in Matto Grosso. It is probably the *Carpintero pardo dorado* of Azara. Cf. v. Berlepsch, J. f. O. 1887, p. 20.—P. L. S.]

86. *CELEUS KERRI*. (Plate III.)

Celeus lugubris, v. Berlepsch, J. f. O. 1887, p. 22 (?).

Celeus kerri, Hargitt, Ibis, 1891, p. 605.

(Nos. 95 & 33, ♂; 25, ♀.) Near Fortin Donovan. May 4th, 1890.

This new Woodpecker I met with not unfrequently during the whole period of my stay on the Pilcomayo, where it inhabits the open woods as well as the thick forest. It draws one's attention chiefly by the shabbiness of its appearance; its crested head, of a pale yellow colour, always appears soiled and dragged, and harmonizes with the faded brown and rusty hues of the rest of the body. The whole plumage has, when fresh, a strong odour of musk.

87. *CAMPEPHILUS LEUCOPOGON*.

Campephilus leucopogon, Harg. Cat. B. xviii. p. 466.

Campephilus boiei, Scl. et Salv. Arg. Orn. ii. p. 17.

(Nos. 57 & 67, ♂; 68 & 94, ♀.) Rio Pilcomayo, *passim*. One of the most abundant Woodpeckers in this region,

and it is also the most conspicuous. As one passes through the open palmar one's attention is frequently called by the loud roll as of a kettledrum, and on looking one finds the sound to be produced by a Boie's Woodpecker, striking its heavy beak in rapid succession against the hollow stem of a dead palm-tree. This species is equally abundant in the thick forest as in the open palmar, and its large size, its bright red head, and its martial rat-tat make it very conspicuous. Its ordinary language is a low, soft, and squeaky chattering, uttered when there are two or more of them in company.

Diary, June 12th, 1890.—"As we paddled silently down stream our attention was suddenly arrested by a delicate 'ahem!' as if of a cough to attract one's attention. Again it was repeated, and followed by a suppressed giggle-like sound. We looked at each other, wondering what on earth it could be. At last we caught sight of the performers—a pair of Boie's Woodpeckers, and most amusing it was to listen to and watch them.

"The female pecked away industriously at a tree-trunk with an appearance of the utmost unconcern, yet all the while taking care that the male did not approach too near. After a short while she flew off to a palm at a little distance. The male immediately followed and perched on the same stem near the female. He cocked his beautiful head on one side—uttered innumerable '*he-he-hes*,' interspersed with an occasional '*ahem*,' all evidently meant to be full of emotion; but the female appeared quite unimpressionable and flew off again, and the performance began afresh."

A female of this Woodpecker, which I had alive for some time, showed how the habit of pecking has become quite incorporated into the nature of the bird, so that even when terribly frightened or severely wounded it will every now and then give an involuntary and almost convulsive peck.

† 88. *CEOPHLEUS LINEATUS* (Linn.): Hargitt, Cat. Birds, xviii. p. 508.

(Nos. 127 & 31, ♂; 26, ♀.) Fortin Page. July 3rd, 1890.

Occasionally met with.

[This wide-ranging species has already been recorded from Matto Grosso (*H. H. Smith*), but is new to the Argentine avifauna.—P. L. S.]

89. *PICUMNUS PILCOMAYENSIS*, Hargitt, Ibis, 1891, p. 606. (No. 6, ♂; 125, ♀.) Fortin Page. June 28th, 1890.

This tiny little Woodpecker is not uncommon in the Gran Chaco, where it frequents the terminal branches of the trees, both in the forest and in the open. It hops about with great activity, and frequently, by striking its beak against the branch with great rapidity, produces a continuous “*br-r-r*,” which is very characteristic.

Observed frequently on the Pilcomayo, and also at Puerto Bermejo (Timbó) on the Paraguay; and on an island in the Paraná opposite the town of Empedrado.

[We fear that Mr. Hargitt's name for this species may have to give way to the prior claims of *Picumnus azaræ* (Cab. & Heine, Mus. Hein. iv. pt. 2, p. 20), as it is obvious that the Pilcomayo bird must be the same as that of Paraguay—the *Carpintero enano* of Azara. At the same time it is possible that the type of *Picumnus azaræ* may not be identical with the Paraguayan bird.—P. L. S.]

90. *CERYLE TORQUATA*. (*Op. cit.* ii. p. 26.)

(No. 23.) Abundant. During the height of the dry season many of these Kingfishers were to be seen flying high overhead, evidently on the outlook for fishing-grounds not yet dried up.

91. *CERYLE AMAZONA*. (*Op. cit.* ii. p. 27.)

(No. 51, ♀.) Abundant. On April 25th, just after sunrise, I was surprised to hear a male of this species sing. He sat upon the summit of a dead branch projecting from the water, his body raised up, almost vertically, and his wings expanded. The song was composed of a rapid succession of chirping notes somewhat like those of the common Oven-bird, but more chirpy in tone. On another occasion (May 6th, 1890) I observed *Ceryle amazona* fishing in a laguna after the manner of a Sea-Gull, *i. e.* its wings vibrating rapidly, so that it remained almost stationary in the air over the laguna,

and every now and then gliding rapidly down endeavouring to catch the fish as they came to the surface. Occasionally it managed to catch a fish, but most of its efforts were unsuccessful.

92. CERYLE AMERICANA. (*Op. cit.* ii. p. 27.)

(No. 48, ♂.) Abundant. Frequently to be seen perched on branches by the sides of the river, uttering a sharp "tick" at intervals. Occasionally they are heard to produce a subdued but very high-pitched whistle—one prolonged note—another bird answering. I also observed *C. americana* fishing over a laguna in the manner mentioned of *C. amazona*; but it was even less successful than its larger relative, for I did not see it catch a fish, though I watched it for some time.

93. TROGON SURUCURA. (*Op. cit.* ii. p. 29.)

(No. 52, ♂.) Near Fortin Nueve. April 10th, 1890.

Uncommon; occasionally met with in the thick forests—generally sitting motionless upon a branch.

+94. CROTOPHAGA ANI. (*Op. cit.* ii. p. 31.)

Very abundant in all places along the Pilcomayo, but especially where there is open brushwood. They frequently utter a clear piping cry, something like that of the Curlew.

95. CROTOPHAGA MAJOR, Linn.: Shelley, Cat. B. xix. p. 428.

(No. 203, ♂; 205, ♀.) Fortin Page. November 11th, 1890. Toba, "Tanrai."

Uncommon. Seen only in midsummer on the Pilcomayo. Utters a short cry "eh" resembling that of *Busarellus nigricollis*; also a series of rapidly uttered, somewhat whistle-like sounds.

[Not included in 'Argentine Ornithology,' but already recorded from Paraguay by Azara (*Anno guazu*, no. 264) and by v. Berlepsch—*cf.* J. f. O. 1887, p. 23.—P. L. S.]

96. GUIRA PIRIRIGUA. (*Op. cit.* ii. p. 32.)

(No. 164, ♂; 165, ♀.) Fortin Page. August 8th, 1890.

Very common.

+97. DIPLOPTERUS NEVIUS. (*Op. cit.* ii. p. 35.)

(No. 358, ♂ juv.) Fortin Donovan. January 16th, 1891. Toba, "Wōchēn."

Uncommon. Has a sweet dissyllabic cry, heard occasionally at night in the forest. The Tobas believe that possession of one of these birds, or even of a piece of one of them, will bring them good fortune.

98. *PIAYA CAYANA*. (*Op. cit.* ii. p. 36.)

(No. 24, ♂.) Estancia Gil. March 14th, 1890.

Rare. Found feeding on the ground in the thick forest.

99. *COCCYZUS MELANOCORYPHUS*. (*Op. cit.* ii. p. 38.)

(No. 210, ♂.) Fortin Page. November 26th, 1890.

Uncommon.

100. *RHAMPHASTOS TOCO*. (*Op. cit.* ii. p. 40.)

(No. 128, ♂; 129, ♀.) Fortin Page. July 8th, 1890.

Frequent.

101. *CONURUS ACUTICAUDATUS*. (*Op. cit.* ii. p. 42.)

(Nos. 201, 206, ♂; 202, ♀.) Fortin Page. October 24th, 1890.

Abundant in spring and summer.

102. *CONURUS NANDAY* (Desm.): *Sci. et Salv. Nomencl.* p. 112.

(No. 141, ♂; 142, ♀.) Fortin Page. July 19th, 1890.

Abundant, in very large flocks, about the neighbourhood of Fortin Page. Frequently associates with flocks of *Bolborhynchus monachus*. One of the favourite foods of these species consists of the berries of the parasitic Loranthaceæ, which are so common upon some of the trees.

[This well-known Paraguayan species (the Nendái of Azara) may now be added to the Argentine list.—P. L. S.]

103. *PYRRHURA VITTATA* (Shaw).

Conurus vittatus, Berlepsch, J. f. O. 1887, p. 25.

(Nos. 34, 171, ♂.) Near Fortin Nueve. March 31st, 1890.

Fairly abundant during autumn.

[New to the Argentine avifauna, but already recorded from Paraguay. Cf. v. Berlepsch, *l. s. c.*—P. L. S.]

104. *BOLBORHYNCHUS MONACHUS*. (*Op. cit.* ii. p. 43.)

(No. 149, ♂; 107, 150, ♀.)

Abundant.

105. *CHRYSOTIS ÆSTIVA*. (*Op. cit.* ii. p. 47.)

(Nos. 144, 197, ♂; 198, ♀.) Fortin Page. September 25th, 1890.

Abundant. During spring, especially, their loud cries resound in all directions. Their cry resembles the syllable "caa" uttered in a great variety of inflections, and often amusingly expressive of fright, indignation, and remonstrance, according to circumstance. They nest in hollow palm-trees; and the young are easily tamed and taught to speak.

106. *PIONUS MAXIMILIANI*. (*Op. cit.* ii. p. 47.)

(No. 56, ♂.) Near Fortin Nueve. April 13th, 1890.

Occasionally in considerable numbers, but as a rule uncommon. Goes in small parties.

107. *BUBO VIRGINIANUS*. (*Op. cit.* ii. p. 50.)

(No. 369, ♀.) Near Fortin Nueve. April 2nd, 1890. Toba, "Chigiriki ik."

The commonest Owl on the Pilcomayo. Abundant and conspicuous. Its loud "boo-hoo-hoo" is one of the characteristic night sounds of the Chaco. One of the favourite articles of food of this species consists of large grasshoppers.

+108. *SCOPS BRASILIANUS*. (*Op. cit.* ii. p. 51.)

Obtained on the Rio Paraguay, and identified on the Pilcomayo by its cry, which is very characteristic.

—109. *GLAUCIDIUM FEROX* (Vicill.): Sharpe, Cat. B. ii. p. 200.

(No. 303.) Fortin Page. October 24th, 1890. Guarani, "Caburé."

[Met with in Paraguay by Azara (No. 49), but new to the Argentine list.—P. L. S.]

110. *TINNUNCULUS CINNAMOMINUS*. (*Op. cit.* ii. p. 69.)

Frequent, and at times abundant.

111. *FALCO ALBIGULARIS* (Daud.): Sharpe, Cat. B. i. p. 401.
(No. 155, ♀.) Fortin Page, July 25th, 1890.

Rather frequent during summer, and occasional during winter. A bird of exceedingly powerful flight.

[Obtained by Natterer in Matto Grosso (*cf.* Pelz. Orn. Bras. p. 5, *Hypotriorchis ruficularis*), but not yet recorded from Argentina.—P. L. S.]

- + 112. *ROSTRHAMUS SOCIABILIS*. (*Op. cit.* ii. p. 72.)
(No. 162, ♀ juv.)

Frequent. Feeds chiefly on crabs.

113. *HERPETOTHERES CACHINNANS* (Linn.): Sharpe, Cat. B. i. p. 278.

(No. 211, ♂.) Near Fortin Page. December 5th, 1890.

Rare. As one approaches this bird sitting on a high branch, it bobs its head up and down, peering at one, and utters a curious cry like a gruff "ha-ha." The stomach of a specimen examined contained the remains of a snake.

[New to the Argentine list, but already recorded from Paraguay by Azara.—P. L. S.]

114. *HARPYHALIAËTUS CORONATUS*. (*Op. cit.* ii. p. 66.)
(No. 132, ♀.) Fortin Page. July 12th, 1890.

Rare. Sometimes seen perched on the topmost branch of a tall dead quebracho-tree. Utters a very loud and shrill cry.

115. *URUBITINGA ZONURA* (Shaw): Sharpe, Cat. B. i. p. 213.
(No. 82, ♀.) Near Fortin Donovan. April 30th, 1890.

Very common. Often seen soaring about the camp-fires. Occasionally feeds on fishes left stranded by the evaporating pools.

[Already known from Paraguay (*Azara*), and quite to be expected to occur on the Pilcomayo.—P. L. S.]

116. *BUSARELLUS NIGRICOLLIS*.

(No. 62, ♂.) Near Fortin Donovan. April 19th, 1890.

Frequent. Usually found perched on the branch of a tree overhanging the river, or by the borders of a marsh. At intervals it utters a curious sheep-like cry, like the syllable

“*eh*” much prolonged. Also occasionally seen soaring. Its most usual food is the ordinary river-crab.

[Recorded from Paraguay by Azara (No. 13) and by v. Berlepsch (J. f. O. 1887, p. 123), but an addition to the Argentine list.—P. L. S.]

117. *ASTURINA PUCHERANI*. (*Op. cit.* ii. p. 58.)

A skin of this species brought home has been compared with specimens in the British Museum.

118. *GERANOAËTUS MELANOLEUCUS*. (*Op. cit.* ii. p. 64.)

Commonly seen soaring in circles at an immense height, especially when attracted by camp-fires. It is very wary and difficult to approach.

119. *HETEROSPIZIAS MERIDIONALIS*. (*Op. cit.* ii. p. 63.)

(No. 175, ♂.) Frequently met with.

120. *ACCIPITER CHILENSIS*, Phil. et Landb.: *Sci. et Salv. Ex. Orn.* p. 73, t. xxxvii.; *Oust. Miss. sc. d. Cap Horn*, Ois. p. 21.

(No. 131, ♀.) This specimen has been identified by Dr. Bowdler Sharpe at the British Museum. It is a nearly adult female.

[This species was hitherto known only from Chili and the Magellan Straits, and its occurrence on the Pilcomayo is a fact of much interest.—P. L. S.]

121. *GERANOSPIZIAS CÆRULESCENS*. (*Op. cit.* ii. p. 67.)

Occasional. Flies slowly along at a slight elevation, or sits perched on a tree uttering a prolonged shrill whistle. Feeds chiefly on bats and other small mammals.

122. *POLYBORUS THARUS*. (*Op. cit.* ii. p. 81.)

Very abundant.

123. *CATHARTES AURA*. (*Op. cit.* ii. p. 89.)

Very abundant.

124. *CATHARTES ATRATUS*. (*Op. cit.* ii. p. 89.)

Very abundant; rather more numerous than *C. aura*.

125. PHALACROCORAX BRASILIANUS. (*Op. cit.* ii. p. 91.)

Very abundant both on the Paraná and the Paraguay, as well as on the lower Pilcomayo. On our boat approaching a party of them in the water, they would stretch up their necks and watch us suspiciously for a bit; and then, as we approached nearer, they invariably took to flight. Also to be seen in large numbers perched on trees by the river's bank, especially towards evening and in the early morning. On the Pilcomayo the Cormorant was the only one of the strictly aquatic birds which was to be found in almost equal numbers all through the dry season, when the waters of the rivers and lagunas had become intensely salt. This species has a powerful flight, and many were to be seen flying high overhead, as if traversing long distances.

126. ARDEA COCOI. (*Op. cit.* ii. p. 93.)

Frequent on Rios Paraná, Paraguay, Bermejo, and Pilcomayo. It has a sharp metallic cry resembling the syllables "*coc-oi*."

127. ARDEA EGRETTA. (*Op. cit.* ii. p. 98.)

Very abundant on the Paraná and on the Pilcomayo near its mouth, but, in common with the other Herons, it disappeared in the dry season.

128. ARDEA CANDIDISSIMA. (*Op. cit.* ii. p. 99.)

Very abundant on the Paraná and the lower Pilcomayo.

129. ARDEA SIBILATRIX. (*Op. cit.* ii. p. 100.)

(No. 123, ♂.) This Heron, which is occasionally met with on the Pilcomayo, has a clear hard whistle, in quality approaching the metallic note of the *Bandurria*. Its flight also differs from that of its congeners, the wings being moved through a very small vertical angle and with much more rapidity than is usual. A specimen upon the ground, when I approached, stood bolt upright, its neck and beak stretched straight upwards, its back towards me, and remained absolutely motionless. The colour of its back assimilated very closely with that of the surrounding vegetation, so that it was almost invisible.

130. *TIGRISOMA MARMORATUM*. (*Op. cit.* ii. p. 104.)

(No. 154, ♂.) Fortin Page, July 25th, 1880. Frequent wherever there is fresh water, keeping mostly to the beds of tall bulrushes, from which, when disturbed, it rises up uttering a loud and hoarse "ha-ha-ha." Occasionally also found on the riverside, generally perched on a branch overhanging the water.

+131. *MYCTERIA AMERICANA*. (*Op. cit.* ii. p. 106.)

Seen on the Rio Paraná, Rio Paraguay, and Rio Pilcomayo.

132. *EUXENURA MAGUARI*. (*Op. cit.* ii. p. 106.)

Rare.

133. *TANTALUS LOCULATOR*. (*Op. cit.* ii. p. 108.)

Rare.

+134. *PLEGADIS GUARAUNA*. (*Op. cit.* ii. p. 109.)

(No. 190, ♀.) Fortin Page. September 10th, 1890. Occasional flocks of this Ibis were seen, but not frequently.

135. *THERISTICUS CAUDATUS*. (*Op. cit.* ii. p. 110.)

(No. 213, ♂.) Fortin Page. December 21st, 1890.

Frequent. Flocks were usually found feeding on land that had been recently burnt; also frequently seen soaring. On the Pilcomayo I observed it all the year through, one large flock being seen exactly in the middle of the summer (December 21st).

136. *HARPIPRION CÆRULESCENS*. (*Op. cit.* ii. p. 112.)

(No. 47.) Frequent in the neighbourhood of marshy ground.

137. *PHIMOSUS INFUSCATUS*. (*Op. cit.* ii. p. 113.)

Obtained at Timbó, on the Paraguay, and also near the mouth of the Pilcomayo, and identified by the description in 'Argentine Ornithology.'

+138. *AJAJA ROSEA*. (*Op. cit.* ii. p. 114.)

Frequently met with.

139. CHAUNA CHAVARIA. (*Op. cit.* ii. p. 119.)

Toba, "Ptaká."

Common. On the Pilcomayo the Chajá was seen always in isolated pairs, never in flocks. When feeding, if their suspicions are aroused in any way they at once fly off, uttering loud cries, and alight on the summit of a dead palm-stem or other elevation from which they have an unobstructed view all round. At night they sleep in similar situations, and are extremely vigilant, at once raising the alarm if any large animal is moving about in the vicinity.

140. DENDROCYGNA FULVA. (*Op. cit.* ii. p. 126.)

Obtained near Fortin Donovan about the middle of summer, after the occurrence of heavy rains had caused the formation of several temporary freshwater lagoons.

141. DENDROCYGNA VIDUATA. (*Op. cit.* ii. p. 128.)Obtained along with *D. fulva*.142. CAIRINA MOSCHATA. (*Op. cit.* ii. p. 129.)

Toba, "Waturunyí."

This is the only Duck which I found at all common upon the Pilcomayo itself, it apparently having less objection to salt water than most of its relatives. At night and during the heat of the day they roost in trees near the river. They go to their roost late, and do not leave it till shortly after dawn. They are usually met with in small parties or solitary, but occasionally in flocks of about twenty.

143. QUERQUEDULA CYANOPTERA. (*Op. cit.* ii. p. 130.)

Near Fortin Donovan.

144. QUERQUEDULA VERSICOLOR. (*Op. cit.* ii. p. 131.)

Near Fortin Donovan.

145. QUERQUEDULA BRASILIENSIS. (*Op. cit.* ii. p. 133.)

(No. 360, ♀.) Fortin Donovan. January 12th, 1891.

146. DAFILA SPINICAUDA. (*Op. cit.* ii. p. 134.)

Near Fortin Donovan.

147. SPATULA PLATALEA. (*Op. cit.* ii. p. 136.)

This and all the above-mentioned Ducks, with the exception

of *Cairina moschata*, were observed during the few weeks immediately following some heavy rains, which had given rise to a number of temporary freshwater lagoons. During a regular rainy season the number of Ducks and other aquatic birds would no doubt undergo an enormous increase.

148. COLUMBA PICAZURO. (*Op. cit.* ii. p. 139.)

(No. 385, ♂; 135, ♀.) Fortin Page. July 14th, 1890. Toba, "Wokoto."

Common. The Picazuro Pigeon is, on the Pilcomayo, very shy of man, and is most frequently seen winging its way rapidly overhead, mostly flying in the same direction. As a rule, they are solitary, and they frequently stop to rest on the top-most twigs of trees or on the dead palm-stems by the margin of the esteros. While sitting there they utter a soft cooing song, which, commencing quite imperceptibly, swells up rapidly to its full volume—"he-oo; coo-coo-caoo; coo-coo-caoo; coo-coo-caoo." At other times they utter a series of abrupt "coo-hoos."

149. COLUMBULA PICUI. (*Op. cit.* ii. p. 143.)

Obtained at numerous points on the Pilcomayo. Along with *Chamæpelis talpacoti* it forms flocks, which feed on the ground amongst the brush by the river. The feet were crimson in the specimens collected.

150. CHAMÆPELIA TALPACOTI. (*Op. cit.* ii. p. 144.)

This and the preceding Dove are exceedingly abundant, feeding together in flocks amongst the brushwood bordering the river.

151. ENGYPYPTILA CHALCAUCHENIA. (*Op. cit.* ii. p. 144.)

Very common. Feeds in open spots by the margin of the forest, generally two or three together.

152. CRAX SCLATERI. (*Op. cit.* ii. p. 145.)

Only found in the larger forests near the Paraguay.

153. PENELOPE OBSCURA. (*Op. cit.* ii. p. 146.)

Forests of Rio Bermejo and Pilcomayo near its mouth.

154. *ORTALIS CANICOLLIS*. (*Op. cit.* ii. p. 147.)

The "Charata" is exceedingly abundant in all the thick forests of the Pilcomayo. They occasionally descend to the ground to feed, but this is comparatively rare; usually they remain amongst the upper branches of the trees, feeding on various fruits. This is a sociable bird, many being usually found near one another. It is also rather timid; but this quality is in great part masked by its intense curiosity. When one enters a forest in which the Charatas are not accustomed to the sight of man, they examine the intruder curiously, and call their companions with their soft and cheepee call-note. If one remains perfectly still all the birds within hearing collect around, and by answering their call-notes one can bring them down to within a few feet.

If one walks up towards a tree in which are some Charatas, they first utter their soft call-note to draw their companions' attention, and then, as one comes nearer, they begin to hop about uneasily, and their voices rise in pitch by regular gradations until they end in shrill screams, amusingly expressive of fear and timidity.

At times, more especially just about sunrise, the community of Charatas unite together to produce an extraordinary din. They utter loud and very harsh cries, something like the sound of a gigantic rattle, or of the syllables "chacarata, chacarata," from which they get their Guaraní name, "Charata." All the birds in one part of the forest uniting in this, the effect is almost deafening. Other companies of birds answer, and on a fine morning in the Chaco, just after sunrise, one hears these Charata-choruses resounding in all directions.

The Charata is a favourite article of food with the Indians, who attract it by imitating the call-note, and shoot it with bow and arrow. Amongst the Tobas it is called "Cochine," in imitation of its call.

155. *ARAMIDES YPECAHA*. (*Op. cit.* ii. p. 150.)

(No. 46.) Near Fortin Nueve. April 8th, 1890.
Guaraní, "Paca-á"; Toba, "Wata-á."

Very common and conspicuous on the Pilcomayo, where it is to be seen picking its way slowly along the low and muddy margin of the water, carrying its tail cocked upright, and giving it a sharp jerk every few paces. It is also to be found in numbers in the freshwater marshes, where it lives amongst the bulrushes. The Paca-á is one of the shiest birds occurring on the river, keeping a constant and most vigilant lookout, and on the appearance of a stranger at once betaking itself to the shelter of the vegetation, through which it rapidly makes its way without so much as moving a stalk of grass to betray its whereabouts. It only takes to flight if almost trodden upon, and it occasionally perches on a tree. The call-note is a low soft "cluck."

During the evening more especially, but also occasionally at other times, several birds collect together and produce a most extraordinary noise by their cries, resembling a conversation carried on in loud shrieks, now and then varied by all the birds uniting to cry out "oh-whauchee, oh-whauchee," in an endless variety of tone and expression.

156. PORPHYRIO PARVUS (Bodd.) : *Scl. et Salv. Nomencl.* p. 140.

(No. 208, ♂ ; 206, ♀). Fortin Page. November 26th, 1890. Toba, "Nushidót."

Uncommon. In freshwater marshes among bulrushes.

[Widely distributed in South America, but not previously registered in the Argentine list.—P. L. S.]

157. PORPHYRIOPS MELANOPS. (*Op. cit.* ii. p. 156.)

Observed on a lagoon near Pilcomayo. I had become familiar with this species on the pampas at Mate Grande, so am pretty sure of its identity.

158. ARAMUS SCOLOPACEUS. (*Op. cit.* ii. p. 159.)

Obtained near Fortin Nueve, also near Fortin Page.

159. CARIAMA CRISTATA. (*Op. cit.* ii. p. 161.)

Toba, "Lashinik."

The cry of the Cariama is frequently heard in the open pahnar, somewhat resembling the cries of *Aramides ypecaha*,

but the bird itself is rarely seen. Like *Chunga burmeisteri*, this species is known to the provincial Argentines by the name "Chuña."

160. *PARRA JACANA*. (*Op. cit.* ii. p. 163.)

Very abundant on every freshwater lagoon, where it may be seen in flocks, walking about and feeding on the floating carpet of *Pistia* and other plants. When disturbed they fly off a short distance, their legs hanging down, and utter shrill cries of "he-he-he."

161. *VANELLUS CAYENNENSIS*. (*Op. cit.* ii. p. 163.)

The Teru-teru is not abundant in the interior of the Chaco, probably owing to so much of the country being covered with very long grass. It was got occasionally during autumn and winter on the Pilcomayo.

+162. *ÆGIALITIS COLLARIS*. (*Op. cit.* ii. p. 173.)

(No. 84, ♂; 85, ♀.) Near Fortin Donovan. May 1st, 1890.

Found on the flat sandy margin of the salt lagoons, where it runs about with great rapidity, when it pauses, bobbing its head. The male I have heard utter an almost song-like succession of clear, short, flute-like notes. When approached very close it rises up suddenly into the air with extremely rapid flight, mounting up and up until one loses sight of it. The colour of the bird is exquisitely suited to its surroundings, the brown of its back harmonizing perfectly with the sand, and so making it almost invisible from above, while its white underparts no doubt make it equally so from beneath the water's surface.

It feeds upon small mollusks, insect-larvæ, &c.

163. *HIMANTOPUS BRASILIENSIS*. (*Op. cit.* ii. p. 179.)

(No. 163, ♂.) Fortin Page. August 5th, 1890.

Occasionally seen after the summer rains.

164. *GALLINAGO PARAGUAÏÆ*. (*Op. cit.* ii. p. 181.)

This Snipe was met with in considerable numbers by the edges of freshwater marshes in the neighbourhood of Timbó, on the Paraguay. On the Pilcomayo occasional individuals

were obtained along the margins of the river or of salt-water pools, chiefly about Fortin Page, and during the winter and spring months.

+165. *TRINGA MACULATA*. (*Op. cit.* ii. p. 183.)

Fortin Page.

+166. *TRINGA FUSCICOLLIS*. (*Op. cit.* ii. p. 185.)

(No. 195, ♂.) Pilcomayo.

+167. *TOTANUS MELANOLEUCUS*. (*Op. cit.* ii. p. 186.)

(No. 200, ♂.) Fortin Page. September 30th, 1890.

+168. *TOTANUS FLAVIPES*. (*Op. cit.* ii. p. 187.)

(No. 193, ♂.) Fortin Page. September 13th, 1890.

+169. *RHYACOPHILUS SOLITARIUS*. (*Op. cit.* ii. p. 188.)

(Nos. 192, 194, ♀.) Fortin Page. September 13th, 1890.

170. *PODICEPS ROLLANDI*. (*Op. cit.* ii. p. 204.)

Uncommon.

171. *PODILYMBUS PODICEPS*. (*Op. cit.* ii. p. 206.)

(No. 212.) Near Fortin Page. December 10th, 1890.)

172. *RHYNCHOTUS RUFESCENS*. (*Op. cit.* ii. p. 209.)

The plaintive whistle of this bird was often heard during spring, and one or two specimens were got from the Indians.

173. *CRYPTURUS UNDULATUS* (Temm.).

Only in the thick forests adjoining the Paraguay.

[The single skin of a Tinamoo brought home by Mr. Kerr appears to be an immature specimen of *Crypturus undulatus*, a species which was met with in Paraguay by Azara, and by Natterer in Matto Grosso. It is new to the Argentine list. —P. L. S.]

174. *RHEA AMERICANA*. (*Op. cit.* ii. p. 216.)

Guaraní, "Ñandu"; Toba, "Manik."

Very numerous in the Gran Chaco, but very shy and wary, owing to the constant persecution it undergoes from the Indians. It frequents open ground, especially where there are scattered bushes. The young have a long-drawn

plaintive whistle, which swells on the ear so gradually that it is almost impossible to tell from which direction it comes.

III. *List of the Species new to the Argentine Avifauna.*

[It will be seen by the foregoing list that Mr. Kerr's researches have added the following 29 species to the Argentine avifauna. Most of these additions, it may be remarked, are Paraguayan species which might naturally be expected to occur on the Pilcomayo, so close to the boundary of Paraguay.—P. L. S.]

- | | |
|---|--------------------------------------|
| 1. <i>Hirundo erythrogastra.</i> | 16. <i>Celeus kerri.</i> |
| 2. <i>Tachyphonus melaleucus.</i> | 17. <i>Dryocopus lineatus.</i> |
| 3. <i>Arremon polionotus.</i> | 18. <i>Picumnus pilcomayensis.</i> |
| 4. <i>Cassicus albirostris.</i> | 19. <i>Crotophaga major.</i> |
| 5. <i>Agelæus cyanopus.</i> | 20. <i>Conurus nanday.</i> |
| 6. <i>Pachyrhamphus viridis.</i> | 21. <i>Pyrhura vittata.</i> |
| 7. <i>Synallaxis cinnamomea.</i> | 22. <i>Glaucidium ferox.</i> |
| 8. — <i>maximiliani.</i> | 23. <i>Falco albicularis.</i> |
| 9. <i>Sittosomus olivaceus.</i> | 24. <i>Herpetotheres cachinnans.</i> |
| 10. <i>Xiphorhynchus lafresnayanus.</i> | 25. <i>Urubitinga zonura.</i> |
| 11. <i>Thamnophilus ambiguus.</i> | 26. <i>Busarellus nigricollis.</i> |
| 12. — <i>radiatus.</i> | 27. <i>Accipiter chilensis.</i> |
| 13. <i>Hydropsalis furcifera.</i> | 28. <i>Porphyrio parvus.</i> |
| 14. <i>Chloronerpes chrysochlorus.</i> | 29. <i>Crypturus undulatus.</i>] |
| 15. <i>Dendrobates olivinus.</i> | |

XI.—*On the Birds collected by Mr. F. J. Jackson, F.Z.S., during his recent Expedition to Uganda through the Territory of the Imperial British East-African Company.* By R. BOWDLER SHARPE, LL.D., F.L.S., &c. *With Notes by the Collector.*—Part III.*

(Plate IV.)

THIS third portion of my paper gives a list of Mr. Jackson's collection of Passerine Birds as far as the end of the Turdidæ.

Fam. SYLVIIDÆ.

I have revised the limits of the family Sylviidæ in the manner proposed by Mr. Oates in his 'Fauna of British India,'

* For Parts I. & II., see 'Ibis,' 1891, pp. 233, 587.

